

SENSOR FOR OPTICALLY SENSING AIR BORNE ACOUSTIC WAVES
ABSTRACT OF THE DISCLOSURE

The present invention relates to an optical sensor of air borne acoustic waves. The sensor comprises means for producing mutually coherent optical sampling and reference beams, which may be combined to form an intermediate frequency carrier, the sampling beam being exposed to the acoustic field, in which acoustic wave induced density variations occur. These density variations produce a variation in the index of refraction and thereupon a phase modulation of the sampling beam. This phase modulation may be recovered by an optical detector and a phase detector as an electrical signal representative of the acoustic signal.

The invention has application to security systems.